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EX PARTE

January 15, 1998

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, D.C. 20554

RE: CC Docket Nos. 96-45 and 97-160

Dear Ms. Salas,

Today, representatives of the Benchmark Cost Proxy Model (BCPM) sponsors met with Chuck Keller, Natalie Wales, Brian Clopton, Richard Smith, and Emily Hoffner of the Universal Service Branch of the Common Carrier Bureau. The purpose of the meeting was to respond to assertions made by the Hatfield Model Sponsors in an ex parte letter filed on January 6, 1998. Representing the BCPM were Whit Jordan of BellSouth, Joe Page consultant to INDETEC, and Jim Dunbar, Talmage Cox, and Pete Sywenki of Sprint.

Attached are materials that were provided in the meeting. These materials include detailed responses to assertions and incorrect statements about BCPM that have been made by the Hatfield Model sponsors. The materials also include a chart of costs for the data used in the development of the BCPM, maps depicting HCPM grids, new information obtained from Metromail regarding address counts, and a summary of national results for all "non-rural" carriers from a BCPM3 run using Commission staff supplied inputs. A CD-ROM of BCPM version 3.0 FCC which contains the results files from this national run along with model modifications and corrections that were used in this run based on direction from the Commission staff was provided at this meeting. A public distribution copy of this CD-ROM is being provided to ITS.

The BCPM joint sponsors request that this notice be made a part of the record in this matter. Two copies of this letter, in accordance with Section 1.1206(a)(1), are provided for this purpose. If there are any questions, please call.

Sincerely,

Pete Sywenki

Attachment

cc: Chuck Keller

BCPM Sponsors' Response To Hatfield Sponsors' 1/5/98 Ex Parte Assertions

- Cable Configurations
- Lot Dimensions
- Structure Type
- Main Feeder Steering
- Sub-Feeder Design
- Feeder Technology
- Serving Area Size
- Support for Advanced Services
- Switching
- Interoffice Transport
- Signaling
- Other Items

Cable Configurations

Cable Configurations

Assertion: "The distribution architecture (the backbone and branch arrangement) used by BCPM3 is inappropriate for rural areas."

Fact: It is ironic that the Hatfield Sponsors would label this architecture as "inappropriate" since it is exactly this same architecture that is used to build distribution plant within the Hatfield clusters, many of which are extremely rural.

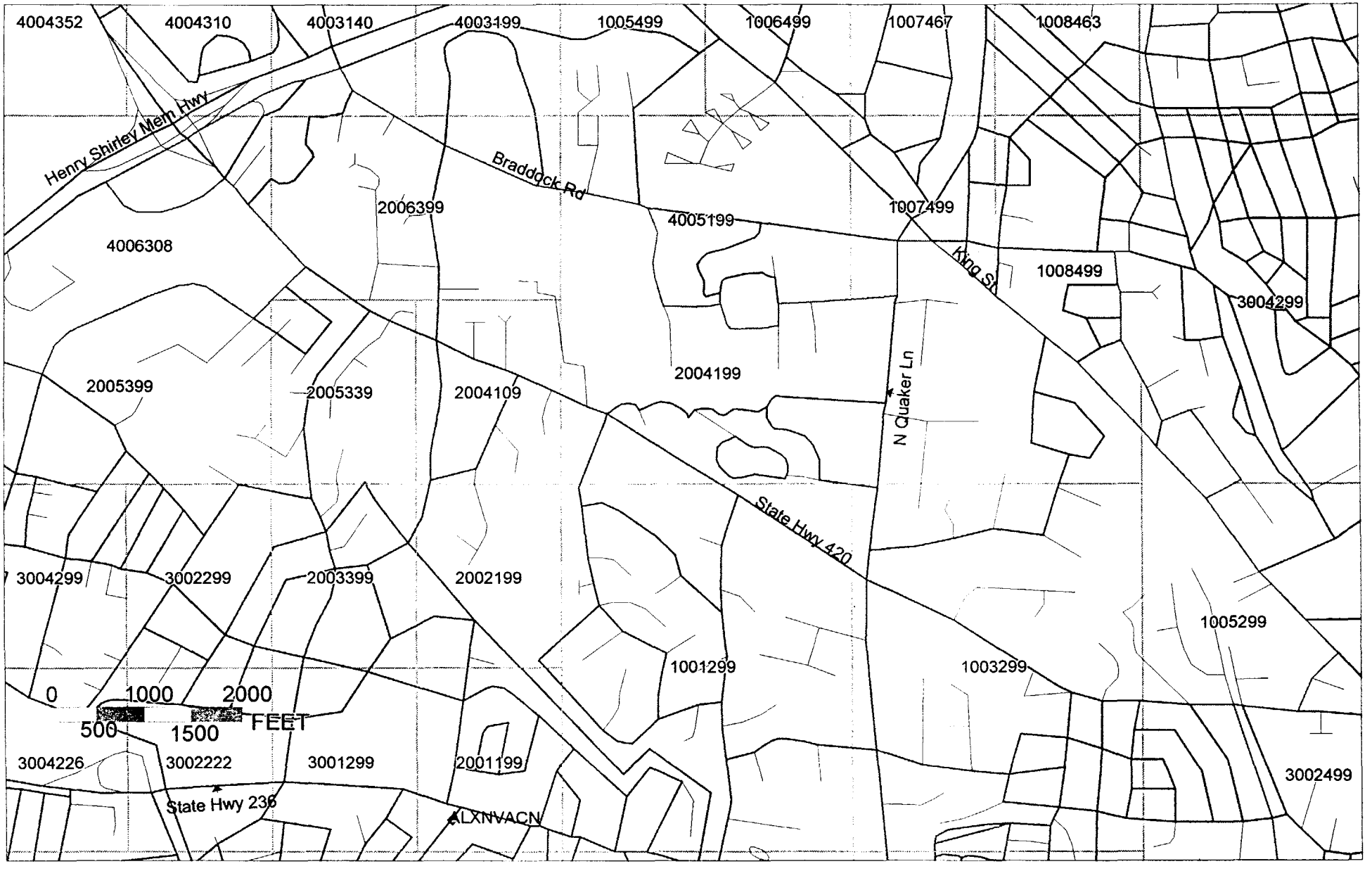
In fact, the Hatfield Sponsors have filed *ex parte* presentations that included maps of geocoded customer locations that appear to be along roads. These locations are then *ignored* by the Hatfield Model as it builds a backbone and branch arrangement within the rural cluster

"The basic distribution configuration employed by HM 5.0 for the main clusters is a "grid" topology, in which tapering backbone cables run in one direction, while branch cables emanating from the backbone run in the other direction."

Hatfield Model Methodology, page 36.

Below is a table listing a sample of the areas, line counts and densities of some extremely rural and sparsely populated main clusters in Nevada in which the Hatfield Model places its backbone and branch architecture.

CLLI where Cluster resides	Lines	Area (sq. miles)	Density
TNPHNVXB	31	14.59	0.16
SLVPNVXF	32	13.26	0.10
SLVPNVXF	6	8.62	0.10
ELKONVXF	12	9.23	0.22
RBVYNVXG	11	10.23	0.11
WNDVNVXC	25	11.55	0.44
WSWDNVXF	24	27.74	0.03



Southwest Washington, D.C.

Lot Dimensions

Lot Dimensions

Assertion: BCPM's methodology is contrary to the economics of property development, and artificially inflates cost.

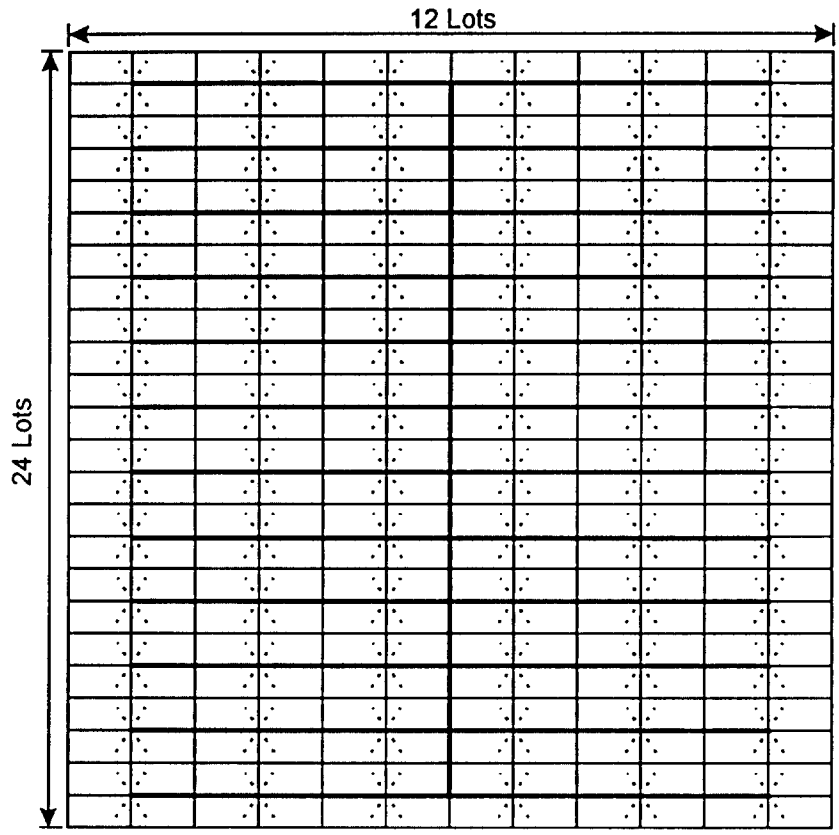
Fact:

- Purpose of lot calculation is to determine the amount of cable necessary to follow rear lot lines
- Based on what is actually put in place and not a theoretical developer minimum
- Streets follow random patterns
- Block widths vary from street to street (See street map extracts of SW Washington DC)
- Cable generally follows many different housing/block configurations including curving and backfed lot lines
- Square lot assumption recognizes various angles of streets and curvatures of lots that require additional cable to follow the lot lines
  - combines a more reasonable depth to width ratio
  - adds lot side distance to recognize where cable varies from straight runs
  - 41% difference from Hatfield assumption is sum of both adjusted ratio and non-straight variation
- Hatfield understates the length of cable required even if all roads were a perfect matrix but not what is real
  - 2 to 1 depth to width ratio assumption for all lots is not accurate
  - All lots are not oriented in the same direction nor are all streets parallel as Hatfield calculates

Southwest Washington, D.C.


St Stephens Rd
Fort Williams Pkwy
State Hwy 420
Fort Worth Av
Trinity Dr

Example of Square CBG with Rectangular Lots



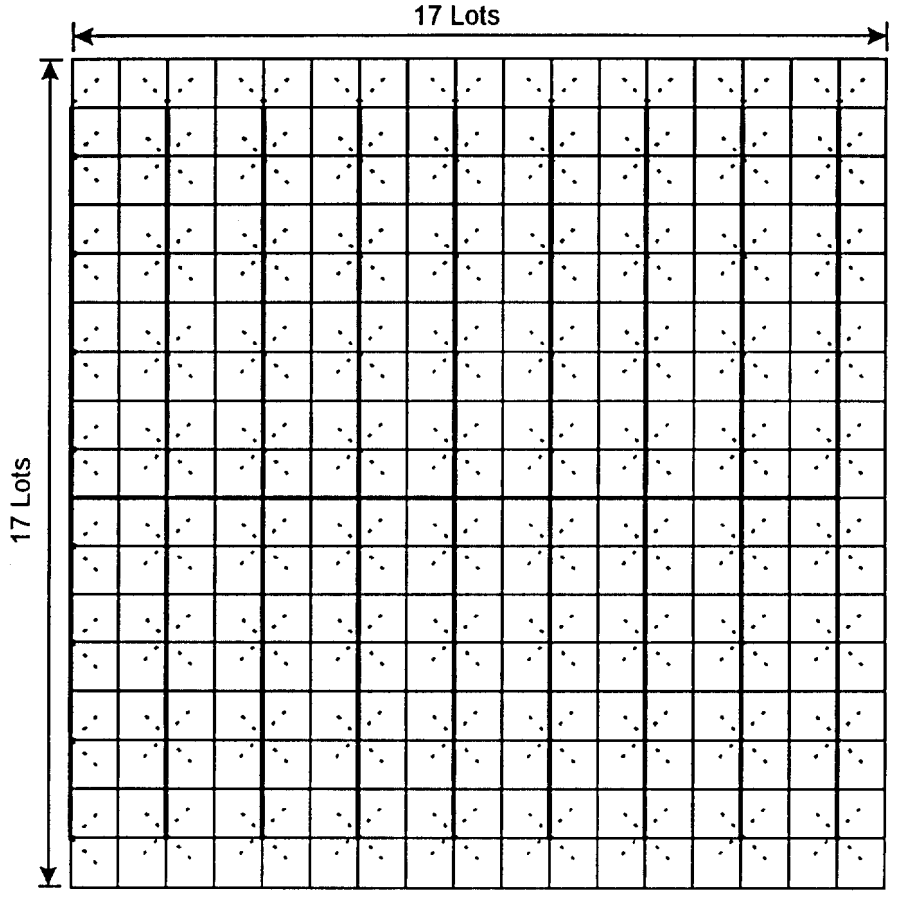
Length of Side of Square CBG = 12
Number of Lots in CBG = 288
CBG Area = 144
Lot Width = 12 / 24 = .5
Lot Length = 12 / 12 = 1.0
Lot Area = .5

Total Horizontal Cable Length = Lot Length x Cable Length in Lots x Number of Horz. Cables
= 1.0 x 10 x 12
= 120

Total Vertical Cable Length = Lot Length x Cable Length in Lots x Number of Vert. Cables
= .5 x 22 x 1
= 11

Total Distribution Cable = 131

BCPM
Example of Square Distribution Area with Square Lots



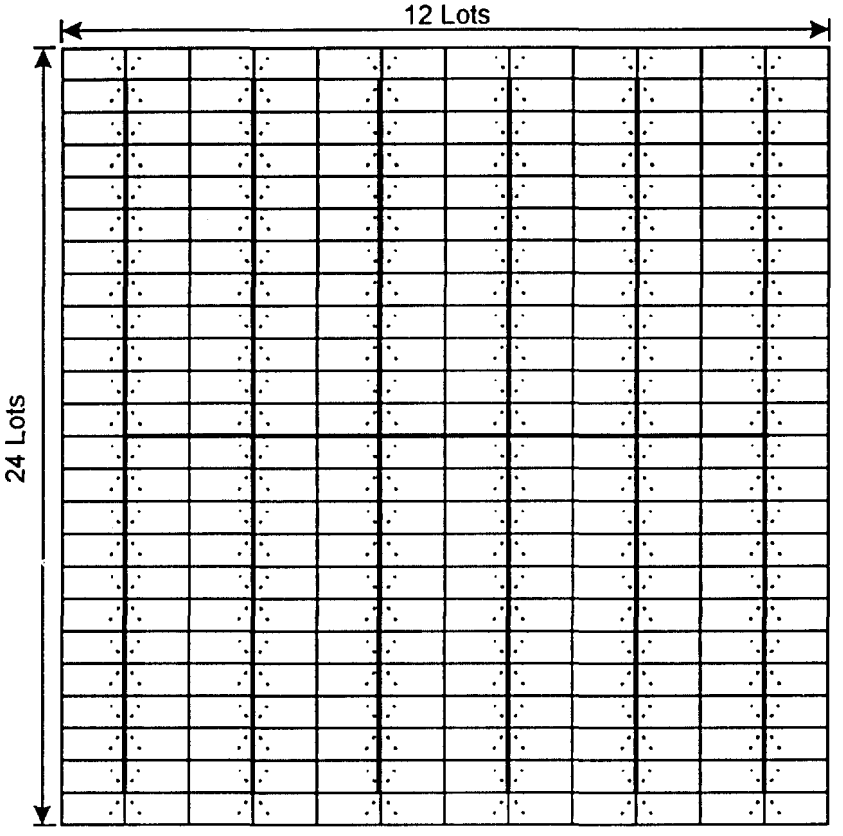
Length of Side of Square Distribution Area = 12
Number of Lots in Distribution Area = 288
Number of Lots Per Side = Square Root (288) = 16.97 = Rounded up to 17 for Demonstration Purposes
Area of Distribution Area= 144
Lot Width = sq. root (144/288) = .71
Lot Length = .71
Lot Area = 144/288 = .5

Total Horizontal Cable Length = Lot Length x Cable Length in Lots x Number of Horz. Cables
= .71 x 16 x 1
= 11

Total Vertical Cable Length = Lot Length x Cable Length in Lots x Number of Vert. Cables
= .71 x 15 x 9
= 96

Total Distribution Cable = 107

Example of Square CBG with Rectangular Lots

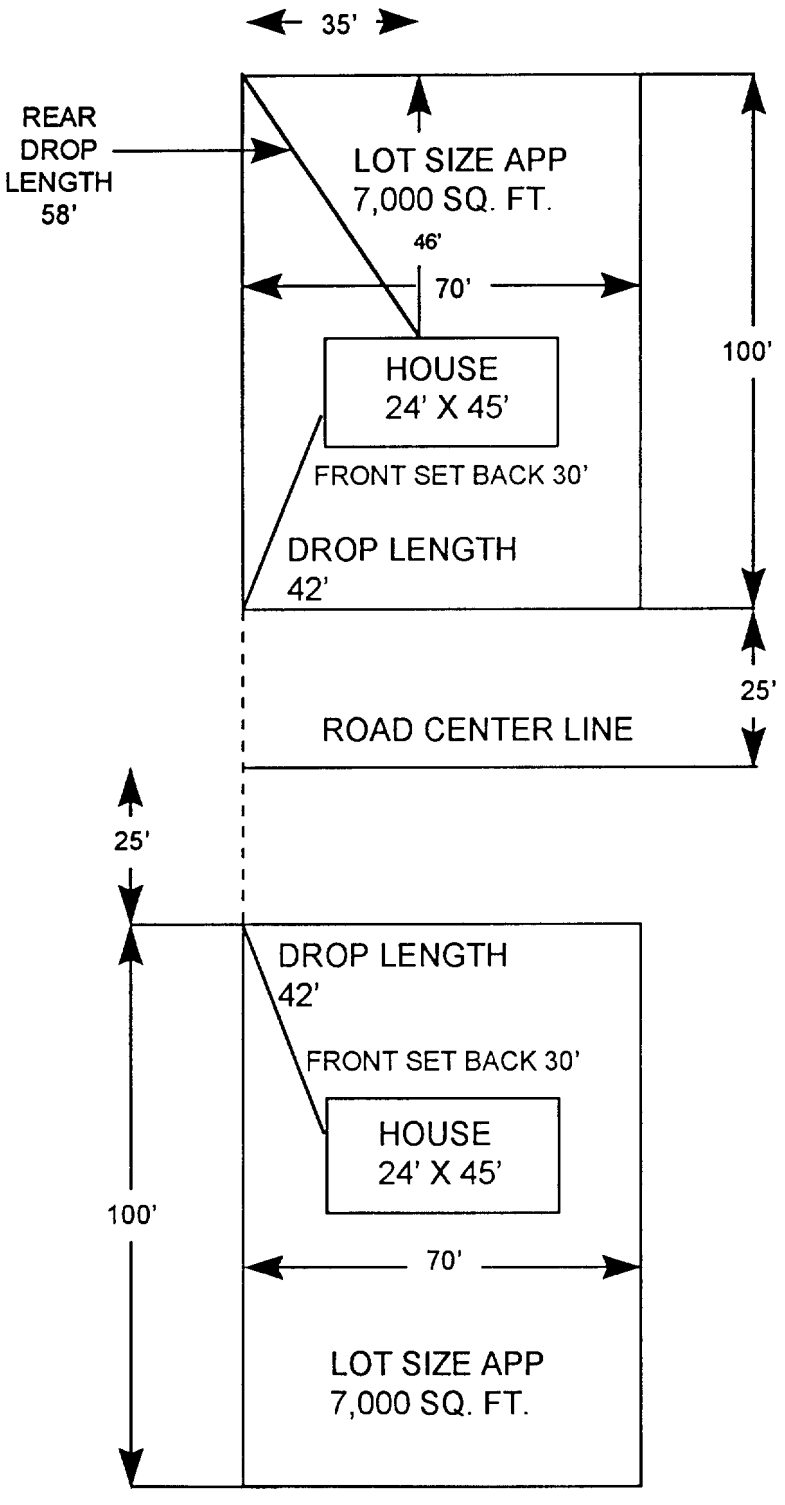


Length of Side of Square CBG = 12
Number of Lots in CBG = 288
CBG Area = 144
Lot Width = 12 / 24 = .5
Lot Length = 12 / 12 = 1.0
Lot Area = .5

Total Horizontal Cable Length = Lot Length x Cable Length in Lots x Number of Horz. Cables
= 1.0 x 10 x 1
= 10

Total Vertical Cable Length = Lot Length x Cable Length in Lots x Number of Vert. Cables
= .5 x 22 x 6
= 66

Total Distribution Cable = 76


35'
REAR
DROP
LENGTH
58'
LOT SIZE APP
7,000 SQ. FT.
46'
70'
100'
HOUSE
24' X 45'
FRONT SET BACK 30'
DROP LENGTH
42'
25'
ROAD CENTER LINE
25'
DROP LENGTH
42'
FRONT SET BACK 30'
HOUSE
24' X 45'
100'
70'
LOT SIZE APP
7,000 SQ. FT.

Theoretical Drop Length Comparison

Rectangular Lot

	Square Feet	Width	Depth	Front Set Back	Rear Set Back	Road Width	Drop Length
Front Feed - Pedestal Side	7,000	70	100	30	46	50	42
Front Feed - Opposite Pedestal Side	7,000	70	100	30	46	50	92
Average Front Feed	7,000	70	100	30	46	50	67
Rear Feed	7,000	70	100	30	46	50	58

Drop Length Calculations

Front Feed - Pedestal Side	NID 10' from front of house;house 12.5' from lot line = square root (12.5^2+40^2) = 42
Front Feed - Opposite Pedestal Side	42' distance calculated as above plus width of street = 42 + 50 = 92
Average Front Feed	Average of 42 + 92 = (42 + 92)/2 = 67
Rear Feed	NID centered on back of house = square root (35^2+46^2) = 58

BCPM Square Lot Calculation

Square Feet	Width	Depth	Drop Length
7,000	84	84	59

Drop Length Calculation

Drop Length = .5 * Lot Width * Square Root (2)

Structure Type

Efficient Choice of Structure Type

Assertion: BCPM fails to recognize all cost drivers considered by an optimizing OSP engineer

Fact:

- BCPM varies structure costs with many more than the three asserted levels
  - 3 soil difficulty categories
  - mix of placement activities used in developing structure costs
  - cost of each placement activity (user adjustable with any level of local labor component)
    - by terrain condition
    - by density
    - by plant type
  - user input to set percent of sharing for each type of placement activity
    - by terrain condition
    - by density
    - by plant type
  - water table impact
  - slope impact (structure cost varies proportional to additional distance)
- ALL cost component of structure are user adjustable
- Most engineers do NOT consider potential for structure sharing in economic analysis
- HM 5.0 does NOT consider all cost drivers
  - RUS, legal, and regulatory constraints
  - slope
- Flexibility of input values in BCPM allows user to consider all without overriding with economic factoring applied uniformly to all areas

Main Feeder Steering

Main Feeder Steering

Assertion: BCPM feeder steering mechanism does not provide an optimal variation to right angle feeder design

Fact:

- BCPM more closely approximates actual construction jobs for RUS companies sampled
- Recognizes that concentrations of customers and roads are indicators of land conditions that impact facility placement
    - Sparsity or lack of customer locations generally means
        - Few roads
        - Terrain obstacles
    - Large groups of customer diverse from the town area usually has a road connecting the two locations
    - Minimizes potential for feeder to be run outside of exchange boundary to serve location within the exchange
    - BCPM algorithm does minimize total cable sheath and structure distance
- Hatfield analysis is not based on BCPM's currently filed feeder and subfeeder algorithms
    - We are not sure what Hatfield analysis is referring to when it states that BCPM feeder routing is not optimal. BCPM3 performs a calculation comparing total route distance of cardinal routing with the new pointed and/or split feeder. The feeder routing resulting in the shortest distance is chosen for that office.
    - Hatfield ex parte Exhibits 7 and 8 are not correct representations of what the BCPM model builds
        - Map pictorials filed by BCPM sponsors with earlier versions and used by AT&T and MCI in their scorecard were from preliminary mapping found NOT to match the actual model functionality
        - Maps revised to correctly follow model
        - BCPM steering algorithm was adjusted in model prior to the December 11th filing and included in that filing
- Subfeeders between split main feeders run across and not parallel to main feeder as shown in Hatfield ex parte figure 8 unless the

individual main feeder branch is separated by more than 22.5 degrees from the main quadrant axis (N, E, S, & W)

- All preprocessing algorithms have been put on the record; are also available from the BCPM web site; and, contrary to assertions, are completely user adjustable
- HM 5.0 uses a single route air multiplier for the area under study. This imposes an average multiplier to all feeders regardless of the conditions in the wire center.

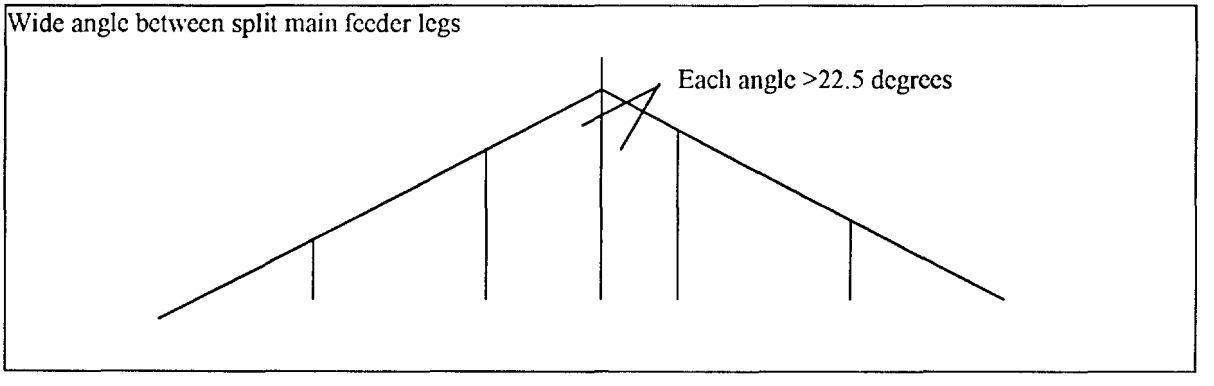
Sub-Feeder Design

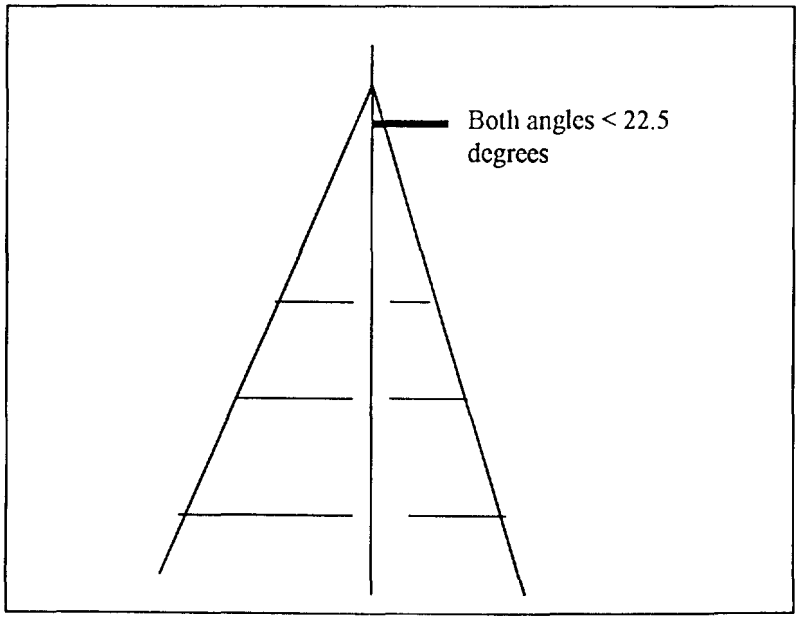
Subfeeder Design

Assertion: HM 5.0 perpendicular subfeeder placement minimizes subfeeder distances better than BCPM 3.0

Fact:

- As discussed above, the AT&T/MCI analysis is not based on correct mapping or modelling
  - BCPM subfeeders run perpendicular to main feeder unless subfeeders are between split main feeders and main feeder is more than a 22.5 degree angle from the main N, E, S, & W axis
  - Subfeeders diverging from main feeders that are separated by more than 45 degrees have a shorter total subfeeder distance if run in the same direction as the main feeders
  - Figure 9 of the AT&T/MCI scorecard is NOT correct for BCPM

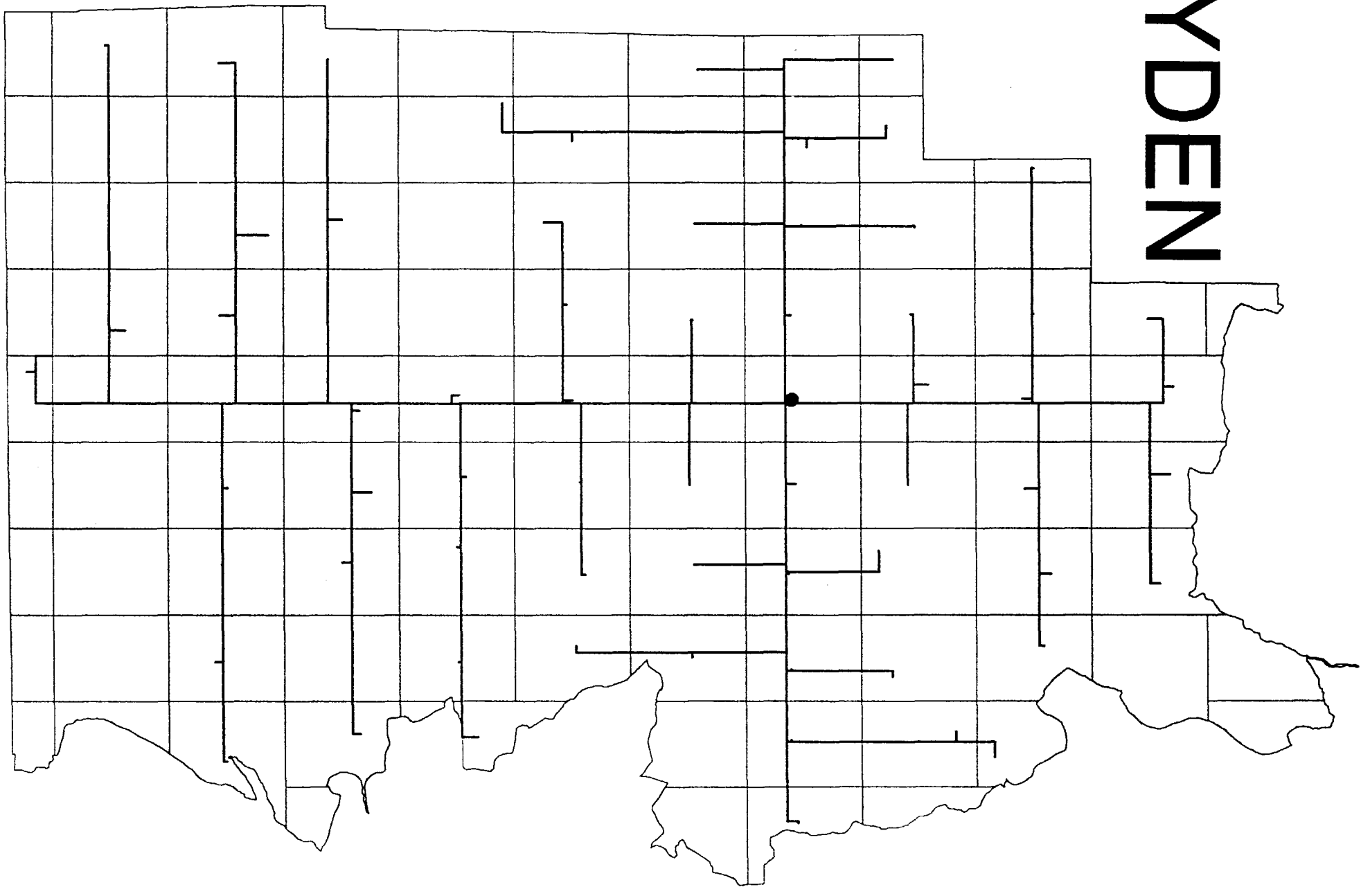




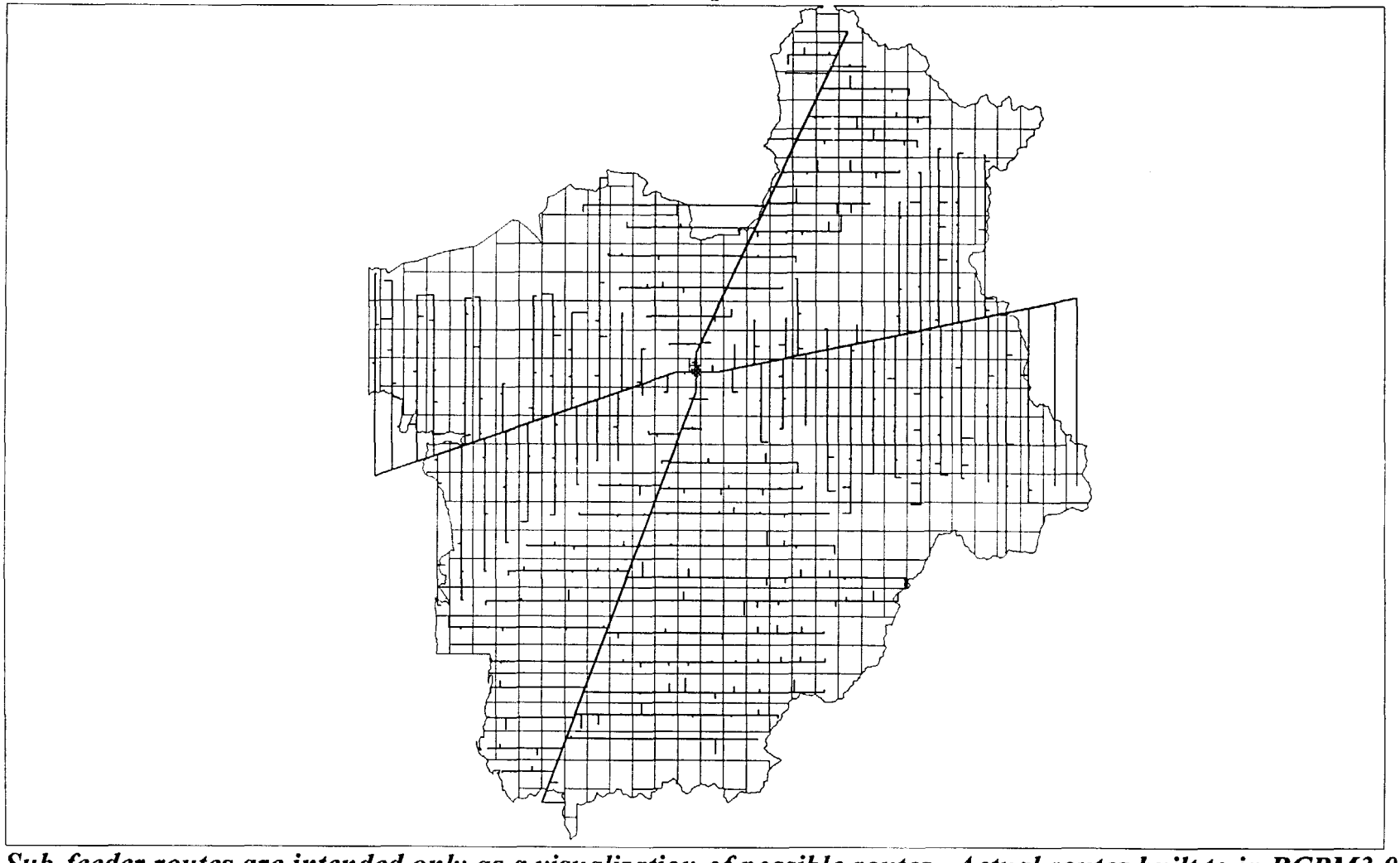
- HM 5.0 does not split main feeders but builds main or subfeeder across unpopulated areas within the central 1/3rd of the quadrant even though a lack of population may be due to terrain obstacles
- BCPM split feeder and the slope distance and water additives allow for obstacle avoidance
- BCPM more closely matches actual plant placement – HM 5.0 does not

FEEDER NETWORK TO GRIDS WITH HOUSING UNITS OR BUSINESS LINES

HAYDEN



BCPM3.0 Feeder/SubFeeder Representation of Gunnison, CO



Sub-feeder routes are intended only as a visualization of possible routes. Actual routes built to in BCPM3.0 depend upon which grids are populated. However, the built routes will follow the same path as that pictured

Feeder Technology